Appendix A
U.S. Bureau of Reclamation, Mid-Pacific Region
Standard Criteria for Evaluating Water Management Plans
1999

These "Standard Criteria for Evaluating Water Management Plans" (Criteria) were developed by the US Bureau of Reclamation (Reclamation) in response to the Central Valley Project Improvement Act of 1992 (CVPIA) and in accordance with the Reclamation Reform Act of 1982 (RRA).

All Contractors that contract with Reclamation for Municipal & Industrial (Urban) water in excess of 2,000 acre feet and/or Agricultural water to serve over 2,000 irrigable acres will be evaluated based on the required information detailed in the sections listed below.

Section	Title
One	DESCRIPTION OF THE DISTRICT
Two	INVENTORY OF WATER RESOURCES
Three	BEST MANAGEMENT PRACTICES FOR AGRICULTURAL CONTRACTORS
	a. CRITICAL BEST MANAGEMENT PRACTICES
	b. EXEMPTIBLE BEST MANAGEMENT PRACTICES
Four	BEST MANAGEMENT PRACTICES FOR URBAN CONTRACTORS
Five	PLAN IMPLEMENTATION
Six	EXEMPTION PROCESS
Seven	REGIONAL CRITERIA
Eight	FIVE YEAR REVISIONS

If some data called for in the Criteria are not available, the Contractor shall include in its Water Management Plan (Plan) how the Contractor will gather the data and have it available for the next Plan revision.

Plans shall be submitted to the following address:

Bureau of Reclamation
Water Conservation Office, MP-410
2800 Cottage Way
Sacramento California 95825

INTRODUCTION

BACKGROUND AND GENERAL INFORMATION

The purpose of these Criteria is to promote the highest level of water use efficiency reasonably achievable by Contractors using best available cost-effective technology and Best Management Practices (BMPs).

Section 210 of the RRA requires Contractors to prepare and submit Plans with definite goals, appropriate water conservation measures, and timetables. Contractors are to submit revised Plans every 5 years.

Section 3405 (e) of the CVPIA requires that the Secretary of the Interior establish Criteria to evaluate Plans by April 30, 1993, and that these Criteria be reviewed at least every 3 years and be revised if necessary.

This law specifies that the Criteria identify BMPs including, but not limited to, efficient water management practices being developed according to California State law or reasonable alternatives.

Reclamation drafted and issued the initial "Criteria for Evaluating Water Conservation Plans" in April 1993. The Criteria were revised in September 1996 and renamed "Criteria for Evaluating Water Management Plans."

Reclamation developed and distributed a Guidebook for Developing Water Management Plans detailing the type of information required in the 1996 Criteria. This Guidebook will be updated to conform with these revised Criteria.

For the purposes of these Criteria, the following definitions will be used:

1. *Best Management Practice* - A policy, program, practice, rule, regulation and/or ordinance, or the use of devices, equipment or facilities that meet either of the following items:

   a. An established and generally accepted practice among Contractors that results in more efficient use, conservation or management of water, or

   b. A practice for which sufficient data are available from existing water management projects to indicate that significant efficiency improvements or management related benefits can be achieved; that the practice is technically and economically reasonable and not socially or environmentally unacceptable; and that the practice is not otherwise unreasonable for most Contractors to carry out.

2. *Contractor* - Entities that contract with Reclamation for Urban and/or for Agricultural water.

3. *District* - The physical boundaries of the Contractors' service area.

4. *Five Year Plan Revision* - Under the RRA, Contractors are required to re-evaluate and re-submit their Plan every five years. The Contractor will use the most recently adopted Criteria or Regional Criteria, if applicable.

5. *Implementation* - Achieving and maintaining the staffing, funding, and, in general, the priority levels necessary to achieve the level of activity called for in the descriptions of the various BMPs and to satisfy the commitment by the contractor to use good faith efforts to optimize benefits from implementing BMPs.

6. *Water Conservation* - Improved water management through the implementation of BMPs.

Flexibility and Coordination

These Criteria recognize the differences between Contractors, and have been written to be flexible enough to allow each Contractor to develop and implement the types of programs that will best accomplish improved water management within their boundaries. In some cases, Contractors may choose to pool resources and implement joint programs. These Criteria not only allow, but encourage, joint efforts toward program implementation.

Review Process

Contractors that submit three copies of a complete Plan or complete revision will receive, within 90 days, notification of Reclamation's acceptance or request for modification. Prior to being included in the "Notice of Draft Decision" to be published in the *Federal Register*, Reclamation requires a resolution by the Contractor's Board of Directors formally adopting the Plan. Once noticed in the *Federal Register***,** the public is given 30 days in which to comment. Copies of the document will be available for review at Reclamation's Mid-Pacific Regional Office and the appropriate Area Office.

Signatories to the Agricultural Water Management Council (AWMC)

Contractors who are members of the AWMC have agreed to submit Agricultural Water Management Plans (Agricultural Plans) to the AWMC as a first step in the public review process. The AWMC will review the Agricultural Plans using Reclamation's Criteria. The AWMC may provide comments to Reclamation within 30 days of receiving the Agricultural Plan. Reclamation will review AWMC comments as part of its concurrent review of the Plan prior to publishing the "Notice of Draft Decision" in the *Federal Register*. The goal is to have the Contractor's Plan used for meeting the requirements of both AWMC and Reclamation.

Consequences of Non-Compliance

Under most conditions, an adequate Plan must be in place before Reclamation will consider extending any discretionary benefits. Discretionary benefits include, but are not limited to, funding through Water Conservation Field Services Program (WCFSP) or Efficiency Incentive Program (EIP) (except for Plan development), and assistance from Reclamation sponsored technical assistance programs.

PLAN CONTENTS

Section One: DESCRIPTION OF THE DISTRICT

Intent:

To describe general physical information about the District in order to form a basis for evaluating improvements by, and within, the District, as well as provide the reader with information about physical aspects of the District that may affect the potential for improved water management.

Evaluation:

In certain circumstances, specific information may not be available. In these circumstances, the section will be considered "adequately addressed" if the plan describes how the information will be obtained for the next Plan revision.

Detail Expected in an Adequate Plan:

Plans shall describe the District history, location and facilities, size, terrain and soils, environment, climate, operating rules and regulations, customer water delivery measurements, water rate schedules and billing, and water shortage allocation policies. For data not available during the preparation of this Plan, the Contractor shall describe how the information will be obtained for the next Plan revision.

A. History: Give an historical overview of the District. Provide a timeline which includes the formation of the District, original size, water supplies, contract information with Reclamation and others, and changes in land use. For Agricultural Districts, describe changes in irrigated acreages, cropping patterns, and evolving irrigation methods.

B. Location and Facilities: Describe the District's water conveyance and delivery system (unlined canals, lined canals, pipelines, etc.) and storage facilities (reservoirs, regulating reservoirs, etc.). Agricultural Contractors should describe spill recovery systems, and whether the delivery system is on-demand (no lead time or scheduling necessary); scheduled (i.e., water order 24 hours in advance); rotation (i.e., farmer receives water every 10 days); or other. Describe any restrictions on the Contractor's water source(s) and proposed changes that will be implemented in the next 5 years.

C. Topography and Soils: Describe the topography of the District (hilly, flat, sloping to a water course, etc.). Indicate the impact of topography on water operations and management within the District. Describe major soil classifications and corresponding acreages within the District and any soil limitations that affect the use of water (salinity or high water table, high or low infiltration rates, etc.).

D. Climate: Describe the general climate of the District. Include average precipitation, maximum and minimum temperatures, average wind velocity and direction, and frost free days. If there are areas within the District known to have significantly different microclimates, describe how these affect water management decisions and operations.

E. Natural and Cultural Resources: Describe any known natural resources (wetlands, rivers, streams, lakes, fisheries, threatened plant and animal communities, spawning grounds, flyways, etc.) within the District. Indicate any management of these resources in the past or present by the Contractor. Describe any known recreational and/or cultural resources within the District.

F. Operating Rules and Regulations: Describe or attach a copy of the Contractor's operating rules and

regulations. Agricultural Contractors should include information on water allocation policies, lead time necessary for water orders and water shut-off, any policies regarding return flows and drainage leaving the District, and policies related to water transfers into or out of the District (by farmer and Contractor).

G. Water Measurement, Pricing and Billing: List the total number of connections/ turn-outs, the number currently measured and the percentage of customer water deliveries measured. List the types and numbers of measurement devices (meters, calibrated gates, weirs, etc.), level of accuracy, frequency of calibration, and maintenance and reading schedule.

Describe the basis for water charges for agricultural and urban uses. A copy of the Contractor's written operating rules and regulations will suffice if they include: basis for water charges for agricultural (by quantity, by acre, by crop, by land assessment, by other charges, etc.) and/or for urban (by customer class, by quantity, flat rate, etc.).

For water use billed by quantity, describe the rate structure (declining, uniform or increasing block rate, etc.). Include the billing frequency (monthly, bimonthly, annually, etc.), bill format, and a description of the record management system.

H. Water Shortage Allocation Policies: Attach a copy of the Contractor's agricultural and/or urban water shortage policies.

Describe how reduced water supplies, including hardship water, are allocated. Describe the Contractor’s policies that address wasteful use of water and describe enforcement methods.

Section Two: INVENTORY OF WATER RESOURCES

Intent:

To describe the quantity and quality of water resources (sources, uses, and discharges) available to the Contractor.

Evaluation:

In certain circumstances, specific information may not be available. For these circumstances, the section will be considered adequately addressed if the Plan describes how the information will be obtained for the next Plan revision.

Detail Expected in an Adequate Plan:

This section shall include a description of the Contractor's surface water supply, ground water supply, other water supplies, source water quality monitoring programs, water uses within the District, agricultural drainage from the District, urban waste water disposal, and a water inventory. Provide this information for 1998. In addition to the current year data, a Contractor may submit data from a different year, or a combination of different years that is representative of their average water conditions. These data are intended to be used for planning purposes. For data not available during the preparation of this Plan, the Contractor shall describe how the information will be obtained for the next Plan revision.

A. Surface Water Supply: Describe the acre-foot amounts delivered to the Contractor by each of the Contractor's surface sources for the specified years. Describe any water quality limitations or management concerns associated with the identified water sources. Provide the amount of water received under each right

and/or contract for each of the last 10 years.

B. Ground Water Supply: Describe the general characteristics of the ground water basin(s) that underlie the District. Provide a map locating Contractor operated water wells, and managed ground water recharge areas. If there is conjunctive use of surface and ground water, describe it. For managed ground water basins, attach a copy of the management plan.

C. Other Water Supplies: Identify any long-term water supplies not described above (drainage from upstream Contractors, reclaimed urban waste water, transfer agreements with adjacent or other Contractors, etc.).

D. Source Water Quality Monitoring Practices: Describe any surface water or ground water quality problems, and how the quality problems limit the use of the water or affect customer use decisions. If water quality problems exist, describe the water quality testing program (frequency of measuring and analyses performed) and which agencies conduct the water testing. Also, describe the Contractor's role in the program.

E. Water Uses within the District:

1. Agricultural: Describe the type and acreage of crops grown in the District; include seasonal evapotranspiration amounts, water required for cultural practices, and the leaching requirement for each crop. List the types of irrigation systems used for each crop.

2. Urban: Describe the urban water use, by customer type, within the District. Describe, where applicable, the waste water collection and treatment systems, recycled water uses and methods of disposal.

3. Ground Water Recharge: List the quantity of water used for planned and incidental ground water recharge, including method of recharge.

4. Transfers and Exchanges: Describe the source and quantity of water that was transferred and/or exchanged into or out of the District, and for what uses. Describe any other water transactions, such as trades, wheeling, etc.

5. Other: Describe any other uses of water.

F. Irrigation Drainage from the District: Identify where surface and subsurface irrigation drainage goes (to beneficial reuse within the service area, discharged to a river or other water course, another District, saline sink, evaporation ponds, wildlife refuge, etc.). If drainage leaves the District and is reused, identify the location and type of that reuse, if known. Describe any water quality monitoring programs for surface or subsurface drainage water (frequency of measuring and analyses performed). Identify any constituents (selenium, pesticides, etc.) that limit reuse of the drainage water. Describe any usage limitation resulting from the drainage water quality.

Section 3405 states that all new, amended, and renewed CVP contracts after October 31, 1992, shall provide that the Contractor or agency shall be responsible for compliance with all applicable State and Federal water quality standards applicable to surface and subsurface agricultural drainage discharges generated within its boundaries. Contractors included in the drainage problem area, as identified in A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley (September 1990), should also complete Attachment A.

G. Water Accounting: Develop a water inventory for the Contractor based on 1998. If a Contractor chooses, a representative water supply year can also be included.

1. Quantify Contractors Water Supplies
   a. Surface water supplies, imported and originating within the District, by month.
   b. Ground water extracted by the District, by month.
   c. Effective precipitation by crop.
   d. Estimated annual ground water extracted by non-District parties (if records are not available, provide an estimate and basis for estimation).
   e. Recycled water by month (water originating from a municipal waste water treatment plant).
   f. Other supplies by month.

2. Quantify Water Used
   a. Conveyance losses, including seepage, evaporation, and operational spills.
   b. Consumptive use by riparian vegetation.
   c. Applied irrigation water, crop evapotranspiration, water used for leaching and cultural practices (frost protection, soil reclamation, etc.)
   d. Urban water use.
   e. Ground water recharge.
   f. Water exchanges and transfers.
   g. Estimated deep percolation within the District.
   h. Flows to perched water table or saline sink.
   I. Total urban waste water treated and discharged.
   j. Irrigation spill or drain water leaving the District.
   k. Other.

3. Overall Water Inventory: Compare total water supplies entering the District with total water leaving the District.

Section Three: BEST MANAGEMENT PRACTICES FOR AGRICULTURAL CONTRACTORS

Intent:

To develop an implementation plan for agricultural BMPs that have been proven to accomplish improved (more efficient) water management.

Evaluation:

Some BMPs are considered universally applicable (critical) and others are considered "generally applicable" (exemptible). Under certain circumstances, one or more of the exemptible BMPs may not be appropriate for Contractor implementation. The Contractor will implement each exemptible BMP, unless the Contractor provides adequate documentation that supports an exemption.

Detail Expected in an Adequate Plan:

For the purposes of these Criteria, the Plan needs to describe the program that the Contractor determines will best accomplish each BMP. The success of some of the practices will depend on cooperative work with other entities. There may be constraints to successful implementation of planned programs. Monitoring and updating

will allow the Contractor to modify planned programs that do not accomplish the BMP as designed.

A. Critical Best Management Practices for Agricultural Contractors

This section lists the BMPs that all Contractors will implement or are already implementing. Provide a description of the implementation plan and include time schedules, budgets and monitoring plans. The Contractor may need to study the most effective way to implement a BMP. If a BMP is to be studied, please provide details and schedules of the study.

1. **Water Measurement**

Measure the volume of water delivered by the Contractor to each customer with devices that are operated and maintained to a reasonable degree of accuracy, under most conditions, to +/- 6 percent. Three categories of measurement devices that may meet this criteria are: devices with totalizers, standard flow measurement devices, and non-standard but calibrated devices.

The first category includes devices with totalizers that measure volume: propeller meters, Venturi meters, magnetic meters, and acoustic meters. These have a high level of accuracy with proper installation and periodic maintenance and calibration.

The second category includes standard flow measurement devices that measure flow rate and also require accurate measurements of delivery time to determine volumes: Replogle and Parshall flumes; rectangular, trapezoidal (Cipolletti) and V-Notch weirs; and canal meter gates. These devices require proper installation; regular recording of flow rates and delivery times; adjustments for approach velocity in some cases; and regular maintenance and calibration for good accuracy.

The third category includes non-standard, calibrated flow measurement devices. This category includes special measurement devices developed by a District. Typically, there are no published standard dimensions or flow tables for such devices. Consistent dimensions and installations; accurate determination of delivery time; local calibration and a verification of accuracy, based on a representative sample number of devices measured over time; and a proposed schedule for maintenance and calibration would be necessary for acceptability.

Rough estimates of flow rate or volume, such as flow rate estimates at check structures or the sum of siphon tubes (or other methods of measurement not specified here), are **not** acceptable since they do not provide a documented reasonable degree of accuracy.

2. **Designate a water conservation coordinator -** Designate an individual to develop and implement the Plan and develop progress reports.

3. **Provide or support the availability of water management services to water users -**Develop and conduct individual programs or cooperative programs with other Contractors in regional programs. Some Contractors may want to contract or arrange program delivery through consulting firms, Cooperative Extension, or others. The services include, but are not limited to:

a. On-farm evaluations
   1) On-farm Irrigation and Drainage system evaluations using a mobile lab type assessment, and/or
   2) Timely field and crop specific water use information to the water user.

b. Normal year and real-time irrigation scheduling and crop ET information (i.e., CIMIS).

c. Surface, ground, and drainage water quantity and quality data.

d. Agricultural water management educational programs and materials for farmers, staff, and public (soil moisture and salinity monitoring; in-school awareness programs; Agwater software; efficient irrigation techniques, crop water budget and other approaches; program delivery via workshops, seminars, newsletters, field days and demonstrations, etc.).

4. **Pricing structure -** Adopt a water pricing structure for Contractor water users based at least in part on quantity delivered.

5. **Evaluate the need, if any, for changes in policies of the institutions to which the Contractor is subject -** Evaluate the policies of agencies that provide the Contractor with water to identify the potential for institutional changes to allow more flexible water deliveries and storage. Initiate necessary modification as practicable.

6. **Evaluate and improve efficiencies of Contractor's pumps -** Many Contractors operate booster pumps or ground water pumps as part of their delivery facilities. A program to evaluate and improve the efficiencies of such pumps may result in energy savings or peak load reductions, or reveal capacity limitations due to inefficient facilities. Over the long term, the Contractor may be able to reduce operational costs and improve operational efficiency.

B. Exemptible Best Management Practices for Agricultural Contractors

Each Contractor shall develop a program to implement the following BMPs unless the Contractor demonstrates that the practice is not appropriate for the Contractor to implement. The Contractor may spend time studying the most effective way to implement a BMP or whether a BMP is appropriate for a Contractor. For appropriate BMPs, provide a description of the implementation plan and include time schedules, budgets and monitoring plans. If a BMP is to be studied, provide details and schedules of the study. These studies must be completed expeditiously and before the next Plan revision. The Contractor should follow the exemption criteria (see Section Six) to justify exemptions and document the exemption in this Section. See Attachment B for examples of circumstances under which BMPs are not applicable.

1. **Facilitate alternative land use -** Facilitate alternative uses (voluntary, compensated) for lands with exceptionally high water duties, or whose irrigation contributes to significant problems such as drainage.

2. **Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils -** The use of recycled urban wastewater for agricultural irrigation provides an opportunity for reuse of an available water supply. Reuse of urban wastewater can be an important element in overall water management.

3. **Facilitate the financing of capital improvements for on-farm irrigation systems -** Financial aid to farmers may include cataloging available funding sources and procedures and/or obtaining funding, administering the program, and providing low-interest loans.

4. **Incentive pricing -** Implement a pricing structure that promotes one or more of the following goals: a)

encouraging more efficient water use at the farm level, b) supporting planned conjunctive use of ground water, c) appropriate increasing of ground water recharge, d) reducing problem drainage, and e) improving management of environmental resources.

5. **a) Line or pipe ditches and canals -** Line or pipe distributions systems to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

   b) Regulatory reservoirs - Construct regulatory reservoirs to improve distribution system delivery flexibility.

6. **Increase flexibility in water ordering by, and delivery to, water users (within operational limits) -** Modify distribution facilities and controls to increase the reliability, consistency, and flexibility of water deliveries.

7. **Construct and operate Contractor spill and tailwater recovery systems -** Construct facilities to capture and reuse District operational spills.

8. **Optimize conjunctive use of surface and ground water -** Increase planned conjunctive use of surface and ground water within the District.

9. **Automate canal structures -** Automation of canal structures may increase flexibility in water deliveries and increase the Contractor's control over its water supplies; thereby, providing the opportunity to improve the efficiency of water use.

10. **Facilitate or promote water user pump testing and evaluation.**

Section Four: BEST MANAGEMENT PRACTICES FOR URBAN CONTRACTORS

Intent:

To develop an implementation plan for urban BMPs that have been proven to accomplish improved (more efficient) water management.

Evaluation:

Under certain circumstances, the generally applicable practices may not be appropriate for Contractor implementation. Contractors will implement each BMP unless the Contractor provides adequate documentation for an exemption. Best Management Practice Number Four, **Metering with commodity rates for all new connections and retrofit of existing connections**, is the only BMP which is not exemptible.

Detail Expected in an Adequate Plan:

This part of the Plan identifies Contractor-specific programs to accomplish the BMPs. It is understood that programs developed by wholesale agencies may not be implemented at the retail customer level, except within the Contractor's retail service area. For the purposes of these Criteria, the Plan needs to describe the program that the Contractor thinks will best accomplish the BMP. The development and implementation of the BMPs in a wholesaler's plan is the responsibility of Reclamation's Contractors.

The success of some of the practices will depend on cooperative work with other entities. It is recognized that there may be constraints to successful implementation of planned programs. Monitoring and updating will allow

the Contractor to modify any planned programs that do not accomplish the BMP as designed.

Best Management Practices for Urban Contractors

This section lists the BMPs that the Contractor will implement or are already implementing. Provide a description of the implementation plan and include time schedules, budgets, and monitoring plans.

1. Water survey program for single-family residential and multi-family residential customers
2. Residential plumbing retrofit
3. System water audits, leak detection and repair
4. Metering with commodity rates, for all new connections and retrofit of existing connections. **(NOT EXEMPTIBLE)**
5. Large landscape conservation programs and incentives
6. High-efficiency washing machine rebate programs
7. Public information programs
8. School education programs
9. Conservation programs for commercial, industrial, and institutional accounts
10. Wholesale agency assistance programs
11. Conservation pricing
12. Conservation coordinator
13. Water waste prohibition
14. Residential Ultra Low Flow Toilet replacement programs

Section Five: PLAN IMPLEMENTATION

Water management in general, and water management planning in particular, is an on-going process that starts with the preparation of a comprehensive plan. The purpose of preparing a Plan is for the Contractor to implement the programs developed during the planning process. Implementation of programs identified in the Plan is critical to the success of water management within a District. These Criteria focus not only on what constitutes an adequate Plan, but also on the implementation of the programs described in that Plan.

Contractors shall report on Plan implementation annually. For the Agricultural Contractor it is through the completion of updating the BMPs on the Access database. For the Urban Contractor, it is by submitting the California Urban Water Conservation Council report.

Section Six: EXEMPTION PROCESS

Intent:

To demonstrate in a clear and concise manner that a BMP is either not cost-effective, not financially feasible, not legal, or not environmentally possible for a Contractor to implement.

Evaluation:

Some BMPs are not appropriate or possible for a Contractor to implement. To document an exemption, provide the basis, rationale, and details for excluding a BMP. Such documentation shall address, as appropriate, cost-effectiveness, financial feasibility, and environmental or legal constraints to BMP implementation. Reclamation will also consider exemption requests prepared using the final AWMC exemption process or the California Urban Water Conservation Council exemption process.

Detail Expected in an Adequate Plan:

LEGAL CONSTRAINTS

In order to justify a BMP exemption because it would not be legal for the Contractor to implement, detail the following:

1. A list of any known laws, regulations, court decisions, or other legal constraints that make it illegal for the Contractor to implement the BMP.

2. A list of the steps that would be required to remove these constraints.

3. A description of what steps the Contractor has taken to remove these constraints.

4. Documentation of efforts by the Contractor to work with other entities that would have the legal authority to carry out the BMP within the Contractor's service area.

ENVIRONMENTAL CONSTRAINTS

In order to justify an exemption due to known adverse environmental impacts, the Plan must document the critical environmental issues and known (qualitative and/or quantitative) negative impacts of the BMP, and an explanation of why effective mitigation of these impacts is not possible. If mitigation of the environmental impacts is possible, the practice must be implemented unless it can be exempted by another exemption category. For example, if the mitigation costs make the project economically infeasible, a discussion of the mitigation plan and necessary mitigation costs should be included as a part of the economic analysis.

ECONOMIC CONSTRAINTS

In order to justify an exemption due to economic constraints, the Plan must document the following:

1. A benefit-cost analysis that demonstrates the costs to the Contractor outweigh the benefits to the Contractor over the life of the measure. The Contractor must perform the analysis by comparing the present value of all benefits to the present value of all costs. Document the projected/estimated benefits and costs and the methodology for analysis (benefits and costs should be quantified to the extent possible). The analysis performed for each excluded BMP (from the Contractor's perspective) must include, but is not limited to, the following benefits and costs:

Benefits

- All capital costs avoided by the Contractor which include, but are not limited to, the costs associated with the development of new supplies (studies, construction, labor, etc.), transportation, the required increase in storage, distribution capacity, wastewater facilities and treatment capacity, etc.
- Operation and maintenance costs associated with the decrease in the production and distribution of water or the treatment and disposal of wastewater that include, but are not limited to, energy, labor, treatment, storage, drainage treatment and disposal, etc.
- Water purchases avoided by the Contractor.
- Environmental costs avoided by the Contractor.

- Environmental enhancements.
- Revenues from other entities that include, but are not limited to, revenue from the sale of water made available by the BMP, financial incentives received from other entities, etc.
- Other benefits to the Contractor customers that include, but are not limited to, hydropower, improved crop yields, improved crop quality, labor savings, fertilizer savings, increased farm income, etc.

Costs

- Capital expenditures incurred by the Contractor for implementation of the BMP that include, but are not limited to, equipment, supplies, materials, construction, etc.
- Operation and maintenance costs to plan, design, implement, enforce, and evaluate the practice.
- Financial incentives to customers.
- Costs to the environment.
- Other costs to the Contractor.

Several accepted benefit-cost analysis methodologies exist (California Energy Commission's Integrated Resource Planning Methodology, Generally Accepted Accounting Principles, Department of Water Resources Net Benefit Analysis, etc.). A Contractor is considered to be the best suited to evaluate their own economic situation with an appropriate methodology.

2. A discussion and quantification, to the extent possible, of other benefits associated with the implementation of the BMP that may be of interest to potential partners, but are not the direct sole responsibility of the Contractor.

FINANCIAL CONSTRAINTS

In order to adequately justify an exemption due to financial constraints, the Plan must clearly document the following:

1. The benefits and costs of the BMP to the Contractor.

2. The Contractor’s funding needed to implement the BMP.

3. A discussion regarding why the Contractor cannot finance the BMP through rate adjustments, assessments, etc.

4. A discussion of the Contractor's reasonable efforts to secure funding from other entities that include, but are not limited to, lending institutions and bonding authorities, and an explanation of why these entities would not provide funding.

5. The required amount of a grant or subsidy that would be needed to feasibly implement the BMP if financing or partnerships could not be obtained.

Section Seven: REGIONAL CRITERIA

In September 1995, the Department of Interior (Interior) invited the public to identify any concerns they had regarding implementation of the CVPIA (Title XXXIV of Public Law 102-575). To facilitate public input and discussion, representatives of Interior held a series of public meetings between September 1995 and April 1996.

During these meetings, 12 major areas of concern were identified. Interior prepared an “Administrative Proposal” on each of the 12 areas of concern. The “Administrative Proposal” on Water Conservation was released on March 20, 1997.

As provided for in the Administrative Proposal for Water Conservation, Contractors may petition the Regional Director for the development of Regional Criteria, separate and distinct from these Criteria. The factors the Regional Director may consider in evaluating Regional Criteria requests include: 1) the percentage of irrigated acreage represented within a region, 2) the quantity of federally supplied water delivered, and 3) the unique regional characteristics that support developing a criteria other than this Criteria.

The petition shall include the following information: the participating Contractors, description of the characteristics of the region, justification for Regional Criteria, and whether or not Contractors will subsequently engage in regional planning. The Regional Director will initiate a public review process and respond within 90 days of receipt of the petition for Regional Criteria.

Section Eight: FIVE YEAR PLAN REVISION PROCEDURE

Contractors are required to submit revised Plans every five years. For example, if a Contractor filed a Plan in 1994 and the *Federal Register* notice was published on May 19, 1994, then the Contractor is required to revise the Plan covering their water management activities for the next five years no later than December 1999. In this example, the Contractor will submit a revised Plan that updates data and identifies any changes that have occurred since the last five year Plan was adopted and describes their proposed activity and funding levels for the years 2000-2004. The Contractor will use the most recently adopted Criteria or Regional Criteria, if applicable. The Contractor will continue to file an annual update every year to report implementation actions taken.

Attachment A

Information required of Contractors located in a drainage problem area

Contractor's included in the drainage problem area, as identified in A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley (September 1990), are listed, by sub-area, below. If future editions of the drainage report revise the boundaries of a drainage problem area or other factors used to determine which Contractors are in a drainage problem area, Reclamation will revise Attachment A to conform with the current drainage report.

1. Reclamation Contractors in the **Grasslands Subarea**: Broadview WD, Central California ID, Del Puerto WD, Firebaugh Canal WD, Mercy Springs WD, Pacheco WD, Panoche WD, San Luis Canal Company, San Luis WD.

2. Reclamation Contractors in the **Westlands Subarea**: James ID, Tranquillity ID and Westlands WD.

3. Reclamation Contractors in the **Tulare Subarea**: Alpaugh ID, Atwell Island WD, Lower Tule River ID, and Pixley ID.

4. Reclamation Contractors in the **Kern Subarea**: Alpaugh ID.

Contractors listed above shall describe which recommendations prescribed in A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley (September 1990) have been incorporated in their water conservation programs to improve conditions in drainage problem areas. These recommendations include:

1. Source Control
2. Land Retirement
3. Drainage Water Treatment
4. Drainage Water Reuse
5. Shallow Ground water Pumping
6. Evaporation Ponds

Provide a description and level of expenditure for each activity designed to address the recommendations of the San Joaquin Valley Drainage Program. Identify how implementation of the recommendations has or will substantially reduce deep percolation on drainage problem lands. Describe which recommendations have not been implemented and why.

Attachment B

Non-Applicability (N/A) of Exemptible BMPs

To establish that a BMP is not applicable to the Contractor, the Plan should explain the reasons why the BMP does not apply to the Contractor. This justification must be consistent with Section One of the Criteria titled, "Describe the District." Examples of non-applicability for each exemptible BMP are listed below. This list is not all inclusive.

Section Three: B. Exemptible Best Management Practices for Agricultural Contractors

1. **Facilitate Alternative Land Use** - NA could include: Contractors without irrigable lands that have exceptionally high water duties or whose irrigation does not contribute to significant problems;

2. **Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils** - NA could include: completely piped systems which do not have delivery constraints;

3. **Facilitate the financing of capital improvements for on-farm irrigation systems** - None Identified;

4. **Incentive pricing** - Contractor that receives only class 2 water.

5. **a) Line or pipe ditches and canals** - NA could include: completely piped systems, unlined systems or sections or systems which are used as part of a planned conjunctive use program;
   b) Regulatory reservoirs - NA could include: completely piped systems which do not have delivery constraints;

6. **Increase flexibility in water ordering by, and delivery to, the water users within operational limits** - None identified;

7. **Construct and operate Contractor spill and tailwater recovery systems** - NA could include: completely piped systems which do not have delivery constraints;

8. **Optimize Conjunctive use of surface and ground water** - NA could include: Contractors which do not overlie a useable ground water basin and thus neither the Contractor not its customers pump or use ground water;

9. **Automate canal structures** - NA could include: completely piped systems which do not have delivery constraints**.**